REFERENCES

1. Brill, I. C.: Relapsing febrile nodular non-suppurative panniculitis, Baltimore, Waverly Press, Inc., 1936, p. 694.
2. Christian, J. A.: Relapsing febrile nodular nonsuppurative panniculitis, Arch. Intern. Med., 42:338, 1928.
3. Crane, J. T., Aquilar, M. J., and Grimes, O. F.: Isolated lipodystrophy: form of mesenteric tumor, Amer. J. Surg., 169, 1955.
4. Grossman, A., Kaplan, H. J., Preuss, H. J., and Herrington, J. L., Jr.: Mesenteric panniculitis, J.A.M.A., 83:318, 1920.
5. Herrington, J. L., Jr., Edwards, W. H., and Grossman, L. A.: Mesenteric manifestations of Weber-Christian disease, Ann. Surg., 154:949, 1961.
6. Jura, V.: La mesenterite retractile: Caso clinico: Resultanti sperimentali: relieve patogenetici e considerazioni cliniche, Policlinico (Chir), 34:535, 566, 1927.
7. Ogden, W. W., II, Bradburn, D. M., and Rives, J. D.: Panniculitis of the mesentery, Ann. Surg., 151:659, 1960.
8. Rogers, C. E., Demetrakopoulos, N. J., and Hyams, V.: Isolated lipodystrophy affecting the mesentery, the retroperitoneal area and the small intestine, Ann. Surg., 153:277, 1953.
9. Steinberg, B.: Systemic nodular panniculitis, Amer. J. Path., 292:1059, 1953.
10. Tedeschi, C. G., and Botta, G. C.: Retractile mesenteritis, New Eng. J. Med., 266:1035, 1962.
11. Weber, F. P.: Case of relapsing non-suppurative nodular panniculitis showing phagocytosis of subcutaneous fat cells by macrophages, Brit. J. Derm., 37:301, 1920.

Reactions to Intradermal Vaccinations

A Report of Three Cases of Foreign Body Granulomas

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PROPHYLACTIC intradermal vaccination has become increasingly popular in recent years because of the reported decreased incidence of systemic reactions associated with it.[1,5,7] Recently, we observed three instances of local foreign body granulomas, each of at least five months' duration, resulting from this technique.

Two patients received typhoid-paratyphoid A, B inoculations intradermally and one received influenza vaccine intradermally. After the initial local reactions of transient edema, erythema and tenderness, persistent erythematous firm papules appeared at the inoculation sites four to six weeks later. All the patients had had previous intradermal vaccination without untoward sequelae.

REPORTS OF CASES

CASE 1. A 19-year-old white girl received three intradermal typhoid and paratyphoid inoculations in August and September, 1962. The patient was known to have had an accentuated reaction to smallpox vaccine.

Upon physical examination, two firm pink raised papules were noted on the right forearm and one on the left (Figure 1). Biopsy showed foreign body granuloma consisting of homogeneous eosinophilic-staining material, surrounded by lymphocytes, histiocytes and fibroblastic tissues (Figure 1).

CASE 2. A 41-year-old white woman received three intracutaneous injections of typhoid and paratyphoid in August and September, 1962. Vaccination

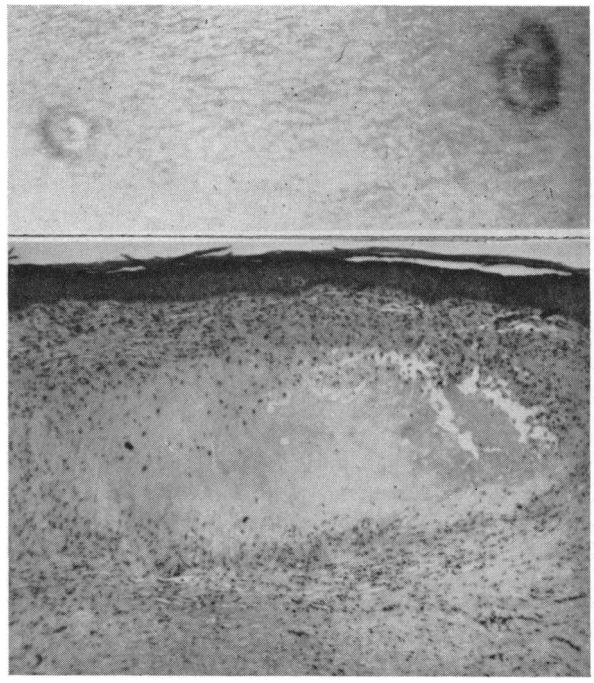

Figure 1.—*Above*, two papules on arm of patient after intradermal typhoid and paratyphoid inoculation. *Below*, photomicrograph of lesion. Note granuloma consisting of central necrotic mass with peripheral lymphocytic and histiocytic infiltrate (× 70).

with poliomyelitis, typhus and smallpox vaccines had been received previously without sequelae. Upon examination three indurated purple papules were seen at the sites of the typhoid and paratyphoid vaccinations (Figure 2). Biopsy showed the lesions to be foreign body granuloma consisting of central necrotic eosinophilic material surrounded by a mononuclear cell infiltrate, scattered giant cells and fibrous tissue (Figure 2).

CASE 3. A 53-year-old white woman received influenza vaccine intradermally in October and November, 1962. A papule formed at the site of the first injection (Figure 3) but not the second (Figure

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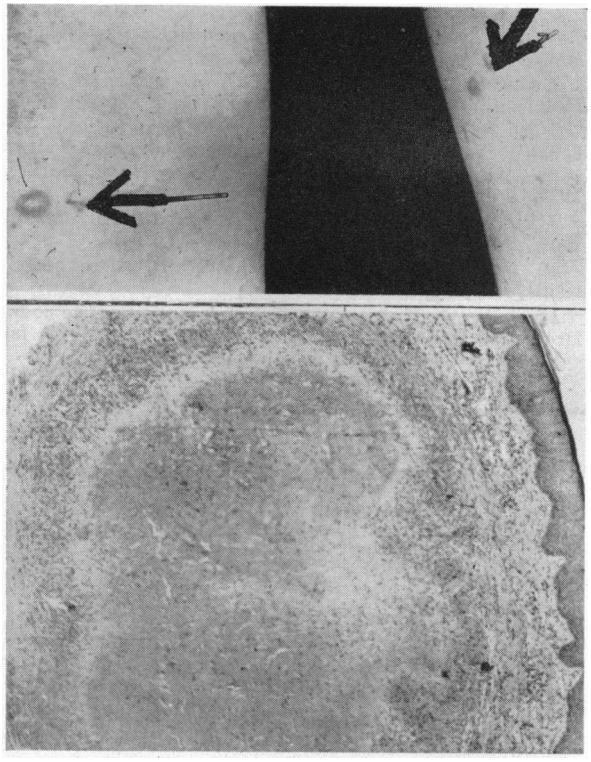

Figure 2.—*Above*, papule on each arm (indicated by arrows) at sites of typhoid and paratyphoid inoculations. *Below*, photomicrograph of lesion. Granuloma consists of central necrotic area with surrounding round cell infiltrate and scattered giant cells (× 70).

3). The patient had previous smallpox and typhoid injections subcutaneously without incident. Biopsy showed the papule to be a foreign body granuloma, similar pathologically to the lesions in the previous two cases (Figure 3).

COMMENT

Local granulomatous tissue reactions to intradermal typhoid vaccine have been reported.[4,10] To the best of our knowledge, this is the first instance of such pathological findings associated with intradermal influenza vaccination. In the three cases here reported, the papules were first noticed four to six weeks after the inoculation and they persisted until excised for biopsy some months later. Delayed chemical abscesses appearing as long as four months after injection,[9] vascular purpura,[8] local reactions to silk contaminants,[2,3] as well as urticaria[6] and anaphylactoid reactions,[4] are documented complications of intradermal inoculation of influenza vaccine. Since no attempt has been made to analyze the vaccines or test the patients involved for sensitivities, the cause of the granulomas remains obscure. Impurities of processing, antigenicity of viral moieties or altered tissue response due to individual peculiarities of antibody formation may be involved.

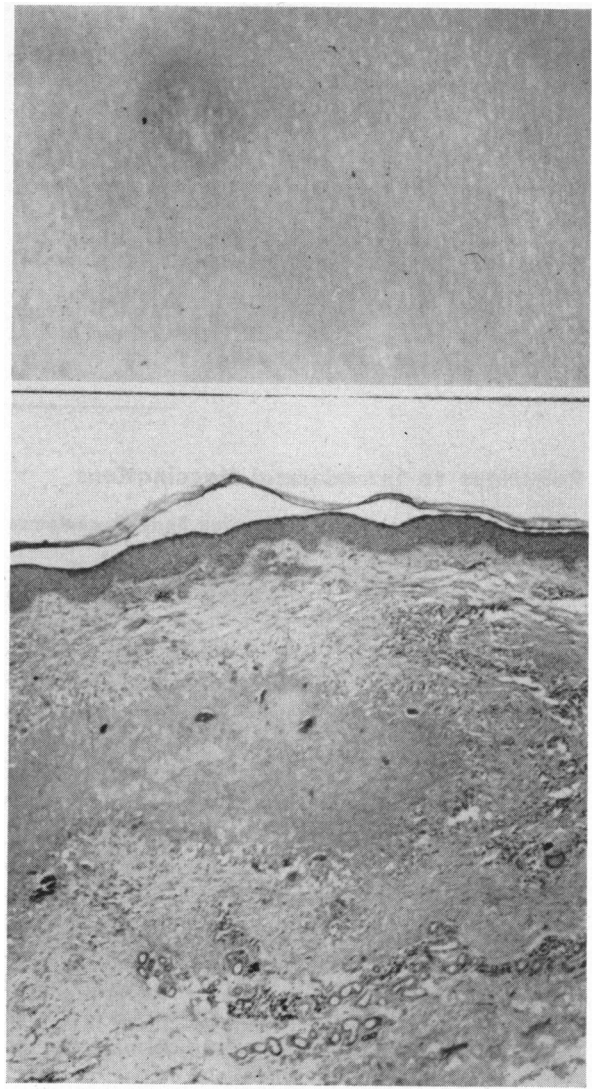

Figure 3.—*Above*, papule at site of inoculation with influenza vaccine. *Below*, photomicrograph of lesion. Note that granuloma produced by influenza vaccine is similar to that produced by typhoid-paratyphoid vaccine (× 70).

SUMMARY

Rarely, local foreign body granulomas at the sites of typhoid and paratyphoid and influenza vaccine intradermal inoculation occur. Three cases are described herein.

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REFERENCES

1. Barr, M., Sayers, M. H. P., and Stamm, W. P.: Intradermal TABT vaccine for immunization against enteric, Lancet (1) 7077:816-817, April 18, 1959.

2. Brown, S. F., and Coleman, M.: Severe immediate reactions to biologicals caused by silk allergy, J.A.M.A., 165: 2178-80.

3. Friedman, H. J., et al: Severe allergic reaction caused by silk as a contaminant in typhoid-paratyphoid vaccine, J. Allergy, 28:489-493, Nov. 1957.

4. Fries, J. H., and Coleman, M.: Anaphylactoid allergic reactions to influenza and poliomyelitis vaccines, Ann. Allergy, 18, Oct. 1960.

5. Glazier, M. M., Berenson, A. S., and Wheeler, R. E.: Active immunization with influenza virus A and B in infants and children, Pediatrics, 17:482-488, 1956.

6. Griffin, H. E.: Reactions to influenza vaccine, Ann. Allergy, 17 (2):179-87, March-April, 1959.

7. McCanal, J. R., and Kilbourne, E. D.: Immunization with Asian strain influenza: Equivalence of subcutaneous and intradermal routes, New Eng. J. Med., 259:618-621, 1958.

8. Stefanini, M., et al: Acute vascular purpura following immunization with Asiatic influenza vaccine, New Eng. J. Med., 259 (1): 9-12, July 3, 1958.

9. Stuart-Harris, C. H.: Influenza, epidermic, Current Therapy, p. 20, 1962.

10. Tilden, I. L., and Arnold, H. L., Jr.: Chronic granuloma following intradermal injection of typhoid vaccine, Arch. Path., 36:13-18, July 1943.

Hereditary Nephropathy (Alport's Syndrome)

A Cause of Hematuria in Childhood

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THE ORIGIN OF AN isolated finding of hematuria in children may be perplexing. After trauma, infection and tumor have been discarded as diagnostic possibilities, the diagnostic label of acute glomerulonephritis may become very attractive. The finding of red blood cells in casts in the urinary sediment makes this diagnosis even more tenable.

Another rare cause that must also be considered is a syndrome characterized by genetic hematuria, often accompanied by nerve deafness. In recent years attention has been focused on several families with this condition. It has been observed that early in life the defect may reveal itself only through the finding of red blood cells and red cell casts in the urinary sediment without other evidence or symptoms of renal or systemic disease. Progression to severe renal disease and to renal failure in middle age or before may occur, and this progression appears to be much more likely in men than in women. Frequently there is concomitant nerve deafness that typically shows itself first with loss of high frequency perception.

The purpose of this report is to draw attention to this entity through the example of a family in which six members of two generations consistently show microscopic hematuria with red cell casts, but have no overt symptoms of renal disease. Several members of the family also have hearing loss.

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CASE 1. *The propositus.* A 10-year-old white girl was admitted to the Palo Alto-Stanford Hospital Center for the first time on January 18, 1961, because of microscopic hematuria.

Through the latter part of December, 1960, she had complained of mild sore throat, fatigue, nausea and occasional sharp, cramping lower abdominal pain which would last for about one-half hour and then subside after the passage of several loose stools. She had no fever.

On December 23, 1960, while being seen by her private physician, she had sudden lower abdominal pain. Blood and urine examinations on that day showed a normal hemogram but the urinary sediment contained many red cells. There were no symptoms referable to the genitourinary system. An intravenous pyelogram showed no abnormality. Cystoscopy was recommended but was rejected by the patient's mother because of disappearance of the symptoms noted above. On January 8, 1961, the patient again had sore throat, malaise and headache, and was brought to the Stanford Pediatric Outpatient Clinic on January 10, where she was found to be afebrile but to have slight pharyngeal injection. Again it was noted that the urine contained numerous red cells, but no protein or casts. Cystoscopy was now agreed to and the patient was admitted to the hospital on January 18.

No abnormalities of the patient's birth, growth and development were noted. Since the age of three years she had had recurrent attacks of tonsillitis, pharyngitis and otitis media treated with antibiotics. Bilateral myringotomy was done at age five. Slight hearing loss up to 10 decibels had occurred intermittently since. It was improved by use of the politzer bag. There had been no complaints of joint pains or skin rashes. A heart murmur was present since infancy, but had always been interpreted as innocent.

The patient was well developed and did not appear ill. The blood pressure was 115/70 mm of mercury, the pulse rate 104, respirations 22 per minute and temperature 37.5°C. Mild scarring of the tympanic membranes was noted. The anterior tonsillar pillars were injected, the tonsils somewhat enlarged. There was a Grade I blowing systolic murmur along the left sternal border. It did not radiate and it changed with position, being inaudible when the patient was upright. Results of the remainder of the physical examination were within normal limits.

Packed cell volume was 37 per cent of the whole blood. Hemoglobin content was 13.1 gm per 100 ml. Leukocytes numbered 8,400 per cu mm, with normal differential of cells, and the platelet count